

IN THE CLAIMS:

Please amend the claims so that the following is the clean version of the pending claims.

Clean Version of the Pending Claims Under 37 C.F.R. § 1.121(c)(3):

1. (Four Times Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substrate comprised of an electrically insulating ceramic material, the substrate having an outermost surface and being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

a plurality of electrical conductors on the substrate, each electrical conductor having a receiving end for connecting to the semiconductive device at electrically conductive terminals of said semiconductive device, and a terminal end for connecting to an electrical apparatus, such that electrical circuitry within the semiconductive device is electrically coupled to the electrical apparatus when the semiconductive device is connected to said plurality of receiving ends of the electrical conductors and said plurality of terminal ends of the electrical conductors are connected to the electrical apparatus; and

a connector for holding the semiconductive device stationary relative to the interposer by contact engagement with said semiconductive device and with said substrate, wherein said contact engagement is effectuated directly or through an adhesive in contact with said connector, and wherein at least some of said terminals are located in the region between said semiconductive device and said outermost surface of said substrate.

2. (Unchanged) A system as recited in claim 1, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

3. (Unchanged) A system as recited in claim 1, wherein the connector removably connects the semiconductive device to the interposer.

4. (Unchanged) A system as recited in claim 1, wherein the connector comprises a resilient biasing clip.

5. (Unchanged) A system as recited in claim 1, wherein the connector is composed of a metal material.

6. (Once Amended) A system as recited in claim 1, further comprising an adhesive placed on at least a portion of said outermost surface and between said at least a portion of said outermost surface and said semiconductive device.

7. (Unchanged) A system as recited in claim 1, wherein at least one of said receiving ends projects from the substrate.

8. (Unchanged) A system as recited in claim 1, wherein at least one of said receiving ends is disposed within a recess in the substrate.

9. (Four Times Amended) A system for testing a semiconductive device, the system comprising:

an electrical testing apparatus;

a semiconductive device having an electrical circuitry therein electrically connected to an electrical lead projecting therefrom;

an interposer, the interposer comprising:

a substrate comprised of an electrically insulating material selected from the group consisting of glass, alumina, glass ceramic, nonmetallic nitride, aluminum nitride, nonmetallic carbide, and mixtures and derivatives thereof, the substrate having an outermost surface and being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface, and is unimbedded into said substrate; and

an electrical conductor on the substrate, the electrical conductor having a receiving end for connecting to the electrical lead of the semiconductive device and a terminal end for connecting to the electrical testing apparatus, whereby the semiconductive device is electrically coupled to the electrical testing apparatus when the electrical lead of the semiconductive device is in contact with the receiving end of the electrical conductor and the terminal end of the electrical conductor is in electrical communication with the electrical testing apparatus, wherein said receiving end and said terminal lead are connected and free of contact engagement with

any other element other than said substrate and said semiconductive device;

and

a connector for holding the semiconductive device stationary relative to the interposer by contact engagement with said semiconductive device and with said substrate, wherein said contact engagement is effectuated directly or through an adhesive in contact with said connector.

10. (Twice Amended) The system as defined in Claim 9, wherein the connector holds the electrical lead of the semiconductive device towards and in contact with the receiving end of the electrical conductor, the connector being composed of copper and alloys thereof, wherein the electrical lead is held towards and in contact with the receiving end by biasing said semiconductive device with said connector against said interposer, and wherein said semiconductive device and said connector are in contact engagement with each other.

11. (Unchanged) The system as defined in Claim 10, wherein the connector has a coating thereon composed of an electrically insulating material.

12. (Unchanged) A system as recited in claim 10, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

13. (Unchanged) A system as recited in claim 10, wherein the connector removably connects the semiconductive device to the interposer.

14. (Unchanged) A system as recited in claim 10, wherein the connector comprises a resilient biasing clip.

15. (Unchanged) A system as recited in claim 10, wherein the connector is composed of a metal material.

16. (Once Amended) A system as recited in claim 10, further comprising an adhesive placed on at least a portion of said outermost surface and between said at least a portion of said outermost surface and said semiconductive device.

17. (Unchanged) A system as recited in claim 9, wherein at least one of said receiving ends projects from the substrate.

18. (Unchanged) A system as recited in claim 9, wherein at least one of said receiving ends is disposed within a recess in the substrate.

19. (Four Times Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substrate comprised of an electrically insulating, ceramic material, the substrate having an outermost surface being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

an electrical conductor on the substrate, the electrical conductor having a receiving end for connecting to the semiconductive device at electrically conductive terminals of said semiconductive device, and a terminal end for connecting to the electrical apparatus, wherein at least some of the terminals are located in the region between said semiconductive device and said outermost surface of said substrate; and

a connector in contact engagement with the semiconductive device and with said substrate for holding the semiconductive device stationary relative to the interposer by holding said semiconductive device against said interposer, wherein said contact engagement is effectuated directly or through an adhesive in contact with said connector.

20. (Unchanged) The system as defined in claim 19, wherein the substrate comprises a substantially planar sheet.

21. (Unchanged) The system as defined in claim 19, wherein the substrate comprises a substantially homogenous material.

22. (Unchanged) The system as defined in claim 19, wherein the receiving end protrudes upwardly with respect to the substrate.

23. (Unchanged) The system as defined in claim 19 wherein the receiving end is disposed within a recess in the substrate.

24. (Unchanged) The system as defined in claim 19, wherein the substrate comprises a material selected from the group consisting of glass, alumina, glass ceramic, nonmetallic nitride, aluminum nitride, nonmetallic carbide, and mixtures and derivatives thereof.

25. (Unchanged) The system as defined in claim 19, wherein the substrate comprises boron nitride.

26. (Unchanged) The system as defined in claim 19, wherein the interposer further comprises an electrically insulating layer on a portion of the conductor between the receiving end and the terminal end.

27. (Unchanged) The system as defined in claim 26, wherein the electrically insulating layer comprises a thermally conductive material.



28. (Unchanged) A system as recited in claim 19, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

29. (Unchanged) A system as recited in claim 19, wherein the connector removably connects the semiconductive device to the interposer.

30. (Unchanged) A system as recited in claim 19, wherein the connector comprises a resilient biasing clip.

31. (Unchanged) A system as recited in claim 19, wherein the connector is composed of a metal material.

32. (Once Amended) A system as recited in claim 19, further comprising an adhesive placed on at least a portion of said outermost surface and between said at least a portion of said outermost surface and said semiconductive device.

33. (Once Amended) A system as recited in claim 19, wherein the receiving end projects from the substrate.

34. (Cancelled)

35. (Thrice Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substantially homogeneous, substantially planar sheet having an outermost surface and comprised of an electrically insulating, inorganic ceramic material, said sheet being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

an electrical conductor on the sheet, the electrical conductor having a receiving end for connecting to a semiconductive device at electrically conductive terminals of said semiconductive device and a terminal end for connecting to an electrical apparatus, such that the semiconductive device is electrically coupled to the electrical apparatus when the semiconductive device is connected to the receiving end of the electrical conductor and the terminal end of the electrical conductor is connected to the electrical apparatus, wherein at least some of said terminals are located in the region between said semiconductive device and said outermost surface of said substrate; and

a connector for holding the semiconductive device stationary relative to the interposer, wherein said connector is in contact engagement with said semiconductive device, and with said sheet, wherein said contact engagement is effectuated directly or through an adhesive in contact with said connector.

36. (Unchanged) The system as recited in claim 35, wherein the substrate consists essentially of alumina.

37. (Unchanged) The system as recited in claim 35, wherein the substrate consists essentially of a glass ceramic material.

38. (Unchanged) A system as recited in claim 35, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

39. (Unchanged) A system as recited in claim 35, wherein the connector performs a function selected from the group consisting of:

removably connects the semiconductive device to the interposer;

resiliently biases the semiconductive device to the interposer; and

adhesively connects the semiconductive device to the interposer.

40. (Once Amended) A system as recited in claim 35, wherein the receiving end projects from the substrate.

41. (Once Amended) A system as recited in claim 35, wherein the receiving end is disposed within a recess in the substrate.

42. (Thrice Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substantially homogeneous, substantially planar sheet having an outermost surface and composed of an electrically insulating material selected from the group consisting of glass ceramics, devitrified ceramics, vitro ceramics, alumina, single oxide ceramics, and mixed oxide ceramics, and mixtures and derivatives thereof, said sheet being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

an electrical conductor on the sheet, the electrical conductor having a receiving end for connecting to the semiconductive device at electrically conductive terminals of said semiconductive device and a terminal end for connecting to the electrical apparatus, such that the semiconductive device is electrically coupled to the electrical apparatus when the semiconductive device is connected to the receiving end of the electrical conductor and the terminal end of the electrical conductor is connected to the electrical apparatus, wherein at least some of said terminals are located in the region between said semiconductive device and said outermost surface of said substrate; and

a connector for holding the semiconductive device stationary relative to the interposer, wherein said connector is in contact engagement with said semiconductive device and with said sheet, wherein said contact engagement is effectuated directly or through an adhesive in contact with said connector.

43. (Unchanged) A system as recited in claim 42, wherein the connector performs a function selected from the group consisting of:

removably connects the semiconductive device to the interposer;  
resiliently biases the semiconductive device to the interposer; and  
adhesively connects the semiconductive device to the interposer.

44. (Once Amended) A system as recited in claim 42, wherein the receiving end projects from the substrate.

45. (Once Amended) A system as recited in claim 42, wherein the receiving end is disposed within a recess in the substrate.

46. (Unchanged) A system as recited in claim 42, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

47. (Thrice Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substantially homogeneous, substantially planar sheet having an outermost surface and composed of an electrically insulating material selected from the group consisting of alumina, alumina with silica, alumina with silicates, alumina with derivatives of silicates, and mixtures and derivatives thereof, said sheet being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

an electrical conductor on the sheet, the electrical conductor having a receiving end for connecting to the semiconductive device at electrically conductive terminals of said semiconductive device and a terminal end for connecting to the electrical apparatus, such that the semiconductive device is electrically coupled to the electrical apparatus when the semiconductive device is connected to the receiving end of the electrical conductor and the terminal end of the electrical conductor is connected to the electrical apparatus, wherein at least some of said terminals are located in the region between said semiconductive device and said outermost surface of said substrate; and

a connector for holding the semiconductive device stationary relative to the interposer, wherein said connector is in contact engagement with said semiconductive device and with said sheet, wherein said contact engagement is effectuated directly or through an adhesive in contact with said sheet.

48. (Unchanged) A system as recited in claim 47, wherein the connector performs a function selected from the group consisting of:

removably connects the semiconductive device to the interposer;  
resiliently biases the semiconductive device to the interposer; and  
adhesively connects the semiconductive device to the interposer.

49. (Once Amended) A system as recited in claim 47, wherein [at least one of said] the receiving end[s] projects from the substrate.

50. (Once Amended) A system as recited in claim 47, wherein [at least one of said] the receiving end[s] is disposed within a recess in the substrate.

51. (Unchanged) A system as recited in claim 47, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

52. (Thrice Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substantially homogeneous, substantially planar sheet having an outermost surface and composed of an electrically insulating material selected from the group consisting of boron nitrides, aluminum nitrides, and mixtures and derivatives thereof, said sheet being configured for receiving thereon a semiconductor device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

an electrical conductor on the sheet, the electrical conductor having a receiving end for connecting to a semiconductive device at electrically conductive terminals of said semiconductive device and a terminal end for connecting to an electrical apparatus, such that the semiconductive device is electrically coupled to the electrical apparatus when the semiconductive device is connected to the receiving end of the electrical conductor and the terminal end of the electrical conductor is connected to the electrical apparatus, wherein at least some of said terminals are located in the region between said semiconductive device and said outermost surface of said substrate; and

a connector for holding the semiconductive device stationary relative to the interposer, wherein said connector is in contact engagement with said semiconductive device and with said sheet, wherein said contact engagement is effectuated directly or through an adhesive in contact with said sheet.



53. (Unchanged) A system as recited in claim 52, wherein the connector performs a function selected from the group consisting of:

removably connects the semiconductive device to the interposer;  
resiliently biases the semiconductive device to the interposer; and  
adhesively connects the semiconductive device to the interposer.

54. (Once Amended) A system as recited in claim 52, wherein the receiving end projects from the substrate.

55. (Once Amended) A system as recited in claim 52, wherein the receiving end is disposed within a recess in the substrate.

56. (Unchanged) A system as recited in claim 52, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.

57. (Thrice Amended) A system for electrically coupling a semiconductive device to an electrical apparatus, the system comprising:

an interposer, the interposer comprising:

a substantially homogeneous, substantially planar sheet having an outermost surface and composed of an electrically insulating material selected from the group consisting of oxides of silicon, silicate glass, and nucleated, substantially crystalline glass, and mixtures and derivatives thereof, said sheet being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate; and

an electrical conductor on the sheet, the electrical conductor having a receiving end for connecting to the semiconductive device at electrically conductive terminals of said semiconductive device and a terminal end for connecting to the electrical apparatus, such that the semiconductive device is electrically coupled to the electrical apparatus when the semiconductive device is connected to the receiving end of the electrical conductor and the terminal end of the electrical conductor is connected to the electrical apparatus, wherein at least some of said terminals are located in the region between said semiconductive device and said outermost surface of said substrate; and

a connector for holding the semiconductive device stationary relative to the interposer, wherein said connector is in contact engagement with said semiconductive device and with said sheet, wherein said contact engagement is effectuated directly or through an adhesive in contact with said connector.

58. (Unchanged) A system as recited in claim 57, wherein the connector performs a function selected from the group consisting of:

removably connects the semiconductive device to the interposer;  
resiliently biases the semiconductive device to the interposer; and  
adhesively connects the semiconductive device to the interposer.

59. (Once Amended) A system as recited in claim 57, wherein the receiving end projects from the substrate.

60. (Once Amended) A system as recited in claim 57, wherein the receiving end is disposed within a recess in the substrate.

61. (Unchanged) A system as recited in claim 57, wherein the connector connects the semiconductive device to the interposer such that a portion of the semiconductive device is exposed to the atmosphere to thereby dissipate heat to the atmosphere.